

## CORRESPONDENCE.

*To the Editor of the AERONAUTICAL JOURNAL.*

DEAR SIR,—With reference to Captain de Haviland's very interesting paper on the Design of a Commercial Aeroplane, reported in your last month's issue, I should like to make the following comments upon the author's attitude towards all-metal aircraft.

Firstly, I can quite understand that there is no argument for immediately introducing all-metal machines into these services. Captain de Haviland and Mr. Handley Page are both engaged in the very difficult problem of making commercial air services financially successful, and since wooden built machines are quite satisfactory for their present requirements, there is no reason to "swop horses in the middle of the stream."

This fact, however, is no argument for belittling the merits of all-metal construction as a whole, nor for assuming that it will be many years before the all-metal machine replaces the old type of construction.

At the present time my firm is in the unique position of being the only firm in this country which has built and flown an all-metal aeroplane, and I am therefore able to speak from actual experience.

Our machine was designed, built and flown within the space of six months, which is sufficient refutation of the idea that all-metal machines are difficult to build. Broadly speaking, I should put down the advantages of our all-metal machine as follows:—

Greater strength for a given weight of structure, less liability of damage to the structure in the event of a bad landing, absolute fireproofness, greater rigidity of the plane surfaces, which becomes increasingly important in view of the high speeds (and consequently high air pressures) which are being attained to-day. The ease with which fireproof bulkheads are inserted in the fuselage, great cleanliness of design, permitting of ready inspection of the interiors of planes and fuselage. (It is possible to take off a plate of the wing covering and replace it in a very short space of time, roughly thirty to forty-five minutes.)

It is quite certain that a metal monocoque fuselage lends itself more readily to mass production than does a wooden fuselage of the same type, whilst it is less likely to be damaged and easier to repair in the event of damage.

We found that we could build our fuselage in several separate segments, completely finishing the details of these segments and then rivetting them together in a very short space of time.

Finally, there is the undoubted fact that an all-metal machine will weather better than one of wood and fabric.

So far as fighting aircraft are concerned, I am convinced that the all-metal machine will entirely replace the older form of construction and that in a very short space of time.

I do not wish to create any misunderstanding as regards the weight of metal-covered plane surfaces; it seems to me that it will always be possible to build a plane with metal structure covered with linen fabric, lighter than a similar plane covered with sheet metal, but the difference is not so great as some people imagine, it is about 2/10ths-lbs. per sq. ft., and this figure is capable of reduction in the future when thinner gauges of metal are made.

Yours faithfully,  
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[Further correspondence on the all-metal aeroplane is invited.—EDITOR.]